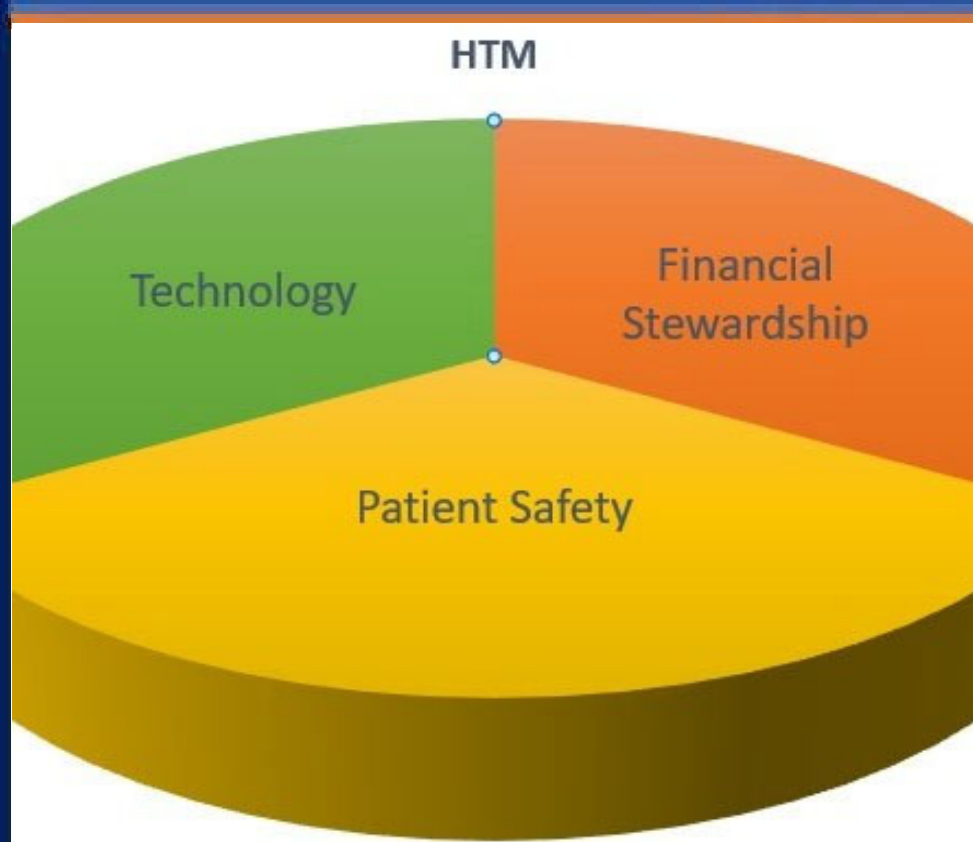




BMET 1306

Introduction to Healthcare Technology Management



About Us

The College of Biomedical Equipment Technology (CBET) is a majority Veteran owned and operated private college offering Biomedical Equipment Technician (BMET), Healthcare Technology Management (HTM) and Healthcare Information Systems Management training at the certificate and associates degree levels. Our leadership team is comprised of individuals with decades of experience in the healthcare industry and education. Similarly, our instructional staff is comprised of industry experts and award-winning educators dedicated to providing quality education, training, and career services to our students.

Locations

Main Campus

105 Windy Meadows, Suites 201
Schertz, Texas 78154
www.cbet.edu

Mission

“The College of Biomedical Equipment Technology delivers premier education and training in Healthcare Technology Management and Information Technology to equip students to meet the evolving needs of the industries we serve.”

About the Course

The Introduction to Healthcare Technology Management course is designed as an Interactive Distance Learning (IDL) course including asynchronous and synchronous live virtual instruction. The participant's experience includes an exploration of the HTM's in the workplace.

- Operations Management
- What is an HTM?
- Risk Management
- Financial Management
- Training Management
- Human Resource Management

Course Description

The course is a 6-week course designed to introduce the students understanding of the healthcare system, the need for clinical technicians in the healthcare system, and their roles and responsibilities. This course will focus on the foundation of healthcare technology, managing medical equipment, and distinguishing the difference between standards, regulations, and guidelines.

Learning Objectives

- LO1. Identify the need for healthcare technology management and how they add value to the healthcare industry
- LO2. Identify the importance of the Healthcare technology manager role in operations management
- LO3. Identify the importance of the healthcare technology manager role in risk management
- LO4. Identify the importance of the healthcare technology manager role in financial management
- LO5. Identify the importance of the healthcare technology manager role in training management
- LO6. Identify the importance of the healthcare technology manager role in human resource management

Time-on-Task.

Time on task is the total learning time spent by a student in this course, including instructional time and time spent studying and completing course assignments and other activities (e.g., reading, research, writing, individual and group projects.) These activities are:

- Attending the weekly webinars
- Reading course presentations/ "lectures"
- Reviewing course notes
- Reading assignment references, books, or other course materials
- Participation in online discussions
- Conducting research
- Writing papers or other assignments
- Completing other assignments (e.g., projects)

The entire course Time-on-Task is 112 hours.

Instructional Team

The Biomedical Equipment I is led by instructors via webinar and interactive distance learning formats. In addition to the weekly live sessions, instructors are accessible via the Learning Management System (LMS) daily, and by appointment via Zoom between the hours of Monday through Friday from 1700-2100 (CST).



Nathan Tegel was born and raised in Orange County, California. Upon graduation from high school, he enlisted in the United States Navy in August 2010 and deployed three times with the Marine Corps as a Field Medical Technician. In 2017, he attended the Navy's Biomedical Equipment Repair Technician school. He graduated from the 14-month course with over 95% overall score and was recognized as a dean's list student. He went on to serve as the work center supervisor for the Navy's largest biomedical repair department. In 2022, he was commissioned into the Navy Medical Service Corps as a Healthcare Administrator and is attending Army-Baylor for his Master of Healthcare Administration. He holds an AAS and BAS in Applied Science, specializing in Biomedical Studies. Additional certifications include Certified Healthcare Technology Manager, Certified Biomedical Equipment Technician, and CompTIA Security+.

Instructional Methods and Activities

The student online learning environment is structured to mirror the course syllabus and includes all the information students require to successfully navigate the course. The online learning environment referred to as CANVAS, provides a means for students to engage, communicate, and learn. CBET instructors will actively engage students in CANVAS via discussion board forums and other activities designed to cultivate student engagement and participation.

Online Classes (Daily). Students are expected to engage in CANVAS. Courses includes weekly assignments, quizzes, tests, and other requirements prescribed by the instructor. Students are responsible for completing weekly assignments in a timely manner as prescribed by the instructor(s). It is important to remember that in addition to the resulting grades, completion of weekly assignments is also used to measure student engagement, attendance, and participation

Weekly Live Webinars. Mandatory instructor led webinars will be conducted at least once per week (60 Minutes). Additionally, students may request one-on-one counseling or tutoring sessions based on the instructor's availability. Webinars are not optional; however, we understand that from time-to-time students may not be able to attend in person. If you cannot attend a live session, the webinars will be posted in CANVAS for review.

Online Discussion Forum (daily/weekly). CANVAS includes a discussion board with weekly prompts and instructions for completing daily/weekly assignments. Students are required to respond to all weekly discussion board topics and instructor-directed prompts. Responses must be substantive and meet the minimum word count requirement. Additionally, students are required to engage with peers by responding to no fewer than two student responses per week. Student participation and attendance in CANVAS is reported to the Director of Education on a weekly basis and the information is used, in part, to measure attendance and participation in the course.

Late/Make-up work. All assignments must be completed on time and as instructed to receive full credit. Make-up work shall:

1. Be supervised by an instructor approved for the subject being made up.
2. Require the student to demonstrate the same knowledge or competence expected of a student who attended the scheduled class session.
3. No more than 5% of the missed work can be made up. All work must be completed and submitted within seven (7) calendar days of its original due date. All coursework must be submitted no later than six (6) calendar days after the course ends.

Week 1/Module 1 What is HTM?

Learning Objective 1. Identify the need for healthcare technology management and how they add value to the healthcare industry	
TLO 1	Identify a healthcare technology manager is and does
TLO 2	Understand the roles and responsibilities of an HTM
TLO 3	Understand what AAMI and CHTM certification mean

Module 1 Overview. During week 1 module, students will receive an introduction to medical devices, medical equipment, and healthcare technology management (HTM). This will include an overview of the roles and responsibilities of an HTM and the need for them in the healthcare system.

Discussion Questions.

Discussion Question (DQ) 1 – *Introduce yourself to the class by describing your (1) what influenced you to become a member of the BMET world, (2) what industry you are currently in, and (3) your future BMET centered goals? [Must answer the required questions to receive full credit, no word count]*

Discussion Question (DQ) 2 – *What is a valid medical device- Watch two video clips and answer questions (1) What is a valid medical device, why or why not? (2) Did it treat any illnesses? [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Webinar Session (60 Minutes). The Module 1 webinar will include a course overview and instructions to improve the student's ability to access materials and resources. Students will be asked to introduce themselves and will be expected to actively participate throughout the session. During the first week, participants will be encouraged to reflect on their own experiences and skills. Instructional focus will be oriented towards introduction to course and expectations. Webinar summary will need to be completed to receive full credit, regardless of attendance during the live webinar.

Assignments.

Assignment 1. Reading assignment: To Err is Human Ch 1

Assignment 2. Week 1 quiz

Time-on-Task. The Time-on-Task for this module is 19 hours.

Week 2/Module 2 (Operations Management)

Learning Objective 2. Identify the importance of the Healthcare technology manager role in operations management	
TLO 1	Identify and understand the different ways to organize workorder completion in a shop
TLO 2	Explore the many ways to design a BMET shop
TLO 3	Identify the importance of a Computerized Maintenance Management System
TLO 4	Understand the importance of communication between staff, technicians, doctors, nurses, and patients

Module 2 Overview. During module 2 students will be introduced to operations management of clinical engineering and biomedical engineering and design a potential BMET shop. In addition, students will understand the HTM's contribution to communication and how it can affect how efficient the shop runs.

Discussion Questions.

Discussion Question (DQ) 1 – *A guide for team communication in today's workforce- Read provided article and answer questions [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Discussion Question (DQ) 2 – *Maintenance management- Read provided article and answer questions [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Webinar Session (60 Minutes). The week 2 webinar will be a discussion including week one review. This includes what is an HTM? HTM responsibilities, certifications, and AAMI. Week two topics that are covered include Providing services, communication, and computerized maintenance management system. Webinar summary will need to be completed to receive full credit, regardless of attendance during the live webinar.

Assignments.

Assignment 1. Writing Assignment- Shop Design

Assignment 2. Week 2 quiz

Time-on-Task. The Time-on-Task for this module is 18 hours.

Week 3/Module 3 (Risk Management)

Learning Objective 3. Identify the importance of the healthcare technology manager role in risk management	
TLO 1	Understand how patient safety and infection control contribute to risk management
TLO 2	Identify how HIPAA contribute to medical equipment and risk management
TLO 3	Demonstrating the importance of policies and standards
TLO 4	Understand the incident investigations process and the importance of completing all recalls

Module 3 Overview. During module 3 students will be able to identify key risk associated with the use of healthcare technology, understand the incident investigations process, and manage recall, hazards, and safety advisories for medical equipment.

Discussion Questions.

Discussion Question (DQ) 1 – *4 ways to manage the risk of equipment failure- Read the provided article and answer the questions. [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Webinar Session (60 Minutes). The week 3 webinar will be a discussion that includes risk assessment, data collection and storage, processes/policies/procedures, and incident investigation and recalls. Webinar summary will need to be completed to receive full credit, regardless of attendance during the live webinar.

Assignments.

Assignment 1. Reading assignment: ECRI- Read the article then develop/submit a 200–400-word synopsis of the article

Assignment 2. Week 3 quiz

Time-on-Task. The Time-on-Task for this module is 21 hours.

Week 4/Module 4 (Financial Management)

Learning Objective 4. Identify the importance of the healthcare technology manager role in financial management	
TLO 1	Explore the different ways the annual budget can be managed in a medical facility
TLO 2	Understand how to organize an annual budget
TLO 3	Evaluate the HTM role in financial planning
TLO 4	Understand the purpose/need of the MEMP

Module 4 Overview. During module 4 students will demonstrate and apply their knowledge of financial management, understand how the equipment procurement process flows, and different budgeting strategies used inside the medical facility.

Discussion Questions.

Discussion Question (DQ) 1 – Equipment Management Plan- Read the provided articles and answer the question (1) What do you believe a medical equipment management plan is? [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]

Discussion Question (DQ) 2 – Equipment Acquisition- Research a medical equipment device of your choice and answer the questions. (1) What are the unit's primary function? (2) What area or department would this device probably be located/utilized? (3) Name a few different manufacturers of this unit. (4) Give a very rough estimate price range of this unit. (5) What are some common problems and/or failures regarding this unit? (6) What is something specific that you would need to check when performing preventive maintenance of this unit? (7) Any other pertinent information about the equipment you chose. [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]

Webinar Session (60 Minutes). The week 4 webinar will be a discussion that includes the annual budget and HTM in the financial advisor role. Webinar summary will need to be completed to receive full credit, regardless of attendance during the live webinar.

Assignments.

Assignment 1. Writing Assignment (Week 4-6) Medical Equipment Management Plan (MEMP)

Assignment 2. Week 4 quiz

Time-on-Task. The Time-on-Task for this module is 18 hours.

Week 5/Module 5 (Training Management)

Learning Objective 5. Identify the importance of the healthcare technology manager role in training management	
TLO 1	Evaluate different continuing education opportunities
TLO 2	Understand the pros and cons of expanding education
TLO 3	Understand what a user error is and how to mitigate the issue
TLO 4	Understand the purpose/need of the MEMP

Module 5 Overview. During module 5 students will demonstrate and apply their knowledge of training management, learn different education fields the HTM career can benefit from, and different continuing education opportunities that are available in the HTM career field. Additionally, discuss the pros/cons of expanding their education.

Discussion Questions.

Discussion Question (DQ) 1 – *Continuing professional development- Read the provided article and answer the questions. [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Discussion Question (DQ) 2 – *Mitigating medical device user errors- Read the provided article and answer the questions. [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Webinar Session (60 Minutes). During Week-5 students engage in discussions emphasizing the importance of continuing education. Topics that will be discussed include continuing education opportunities, benefits of expanding education, and other education the HTM field can benefit from. Webinar summary will need to be completed to receive full credit, regardless of attendance during the live webinar.

Assignments.

Assignment 1. Writing Assignment (Week 4-6) Medical Equipment Management Plan (MEMP)

Assignment 2. Week 5 quiz

Time-on-Task. The Time-on-Task for this module is 18 hours.

Week 6/Module 6 (Human Resource Management)

Learning Objective 6. Identify the importance of the healthcare technology manager role in human resource management	
TLO 1	Evaluate different types of compensation
TLO 2	Understand the importance of disciplinary procedures
TLO 3	Understand the HTM role in selection, retention, and termination
TLO 4	Understand the purpose/need of the MEMP

Module 6 Overview. During module 6 students will demonstrate and apply their knowledge obtained over the 6-week course. Students will be introduced to knowledge about human resource management and conflict management.

Discussion Questions.

Discussion Question (DQ) 1 – *Managing workplace conflict- Read the provided article and answer the questions. [Must answer the required questions and respond to 2 classmates to receive full credit, no word count]*

Webinar Session (60 Minutes). During Week-6 students engage in discussions emphasizing the importance of human resources. Topics that will be discussed include compensation, disciplinary procedures, selection, retention, and termination. Webinar summary will need to be completed to receive full credit, regardless of attendance during the live webinar.

Assignments.

Assignment 1. Writing Assignment (Week 4-6) Medical Equipment Management Plan (MEMP)

Assignment 2. Final Thoughts Essay- In your own words, submit a word document letting me know how much you learned, what worked, and what could use improvement.

Time-on-Task. The Time-on-Task for this module is 18 hours.

Note: Please remember to complete the end of course survey prior to the end of the last day of class.

Course Grade Distribution

Discussion	30%
Weekly Live Webinars	30%
Homework Assignments	30%
Capstone Project/Final Exam	10%

Discussion Board Grading Criteria (30% of overall grade)

Students are required to respond to all weekly discussion board topics and instructor-directed prompts. Responses must be substantive and meet the minimum word count requirement. Additionally, students are required to engage with peers by responding to no fewer than two peer-to-peer responses per week. The following rubric is used as a guide by instructors to evaluate and grade student responses to discussion questions and peer-to-peer engagement:

	Beginning 0-25 Points	Developing 25-50 Points	Accomplished 50-75 Points	Exemplary 75 to 100 Points
Weekly Discussion Question Responses (Minimum of two 200-word responses per week).	Contributes fewer than the required 2 Discussion Question (DQ) responses.	Contributes 2 Discussion Question (DQ) responses but one or both fail to meet minimum word-count requirements for the DQ.	Contributes by providing 2 Discussion Question (DQ) responses and meets the minimum word count requirements for the DQ.	Exceeds required DQ word count requirements and/or provides an exemplary response to a DQ.
Weekly Engagement with peers (Minimum of two 200-word responses to peers each week).	Contributes fewer than the required peer-to-peer responses in the discussion forum.	Contributes 2 peer-to-peer responses in the discussion forum but fails to meet minimum word-count requirements and lacks substance.	Contributes by providing 2 peer-to-peer responses and meets the minimum word count requirement for the peer-to-peer response	Exceeds required peer-to-peer response requirements by meeting the minimum word count requirement and providing substantive responses to peers.
Quality and Content of DQ responses and peer-to-peer responses in the Discussion Forum.	Postings in the discussion forum are not relevant to the assigned topic, are inaccurate, or misrepresented.	Postings in the discussion forum address peripheral topics, are generally accurate, but may contain factual omissions and/or errors.	Postings are generally substantive; however, responses rely too heavily on opinion than fact. Postings meet word count requirements but lack scholarly tone or appropriate references.	Discussion Question and Peer-to-Peer postings consistently contribute to the discussion, contain substantive comments backed by relevant references and encourage open dialogue and additional discussion in the class.

Weekly Live Webinars (30% of overall grade)

Mandatory instructor led webinars will be conducted at least once per week (60 Minutes). Webinars are not optional; however, we understand that from time-to-time students may not be able to attend in person. If you cannot attend a live session, the webinars will be posted in CANVAS for review. Instructors will assign weekly assignments associated with the live webinars.

Homework Assignments (30% of overall grade)

Students will be assigned homework on a weekly basis. Homework may consist of a wide variety of deliverables. Homework may include a wide array of requirements, ranging from written assignments, research projects, PowerPoint presentations, and a host of other activities. In all cases, instructors will endeavor to ensure that students possess a clear understanding of the requirements and expectations.

Capstone Project/Final Exam (10% of overall grade)

Each course will contain a capstone project or final exam. Capstone and final exams are worth no more than 30% of the student's overall grade in the course.

Grading System for the College of Biomedical Equipment Technology

A	90-100	4.0	F	59 & Below	0.0
B	80-89	3.0	W	Withdrawal	N/A
C	70-79	2.0	I	Incomplete	N/A
D	60-69	1.0	T	Transfer	N/A

To receive an incomplete "I", the student must petition the instructor for an extension to complete the required coursework. The student must be able to pass the course with the completed work and garner a grade of 70 or better. Incomplete grades that are not completed within 7 business days after the beginning of the next session will be converted to the existing grade earned in the course and will affect the student's GPA accordingly. CBET reserves the right to extend the time needed to fulfill the incomplete.

An "I" does not count towards the Grade Point Average (GPA) until a grade is assigned. A "W" is given when a student is dropped from the roster during the course and does not replace the previous grade(s). Grades of "W" and "F" are recorded in the academic transcript and reflected in the GPA. When a course is repeated after failure or withdrawal, the later grade will replace the first grade in calculating the CGPA. The clock hours of the course repetition are counted toward the maximum timeframe. CBET shall record a grade of "incomplete" for a student who withdraws but is not entitled to a refund if the student requests the grade at the time the student withdraws, and the student withdraws for an appropriate reason unrelated to the student's academic status.

A student must repeat a course in which a grade of "F" was received. A student can repeat each course once, however, once they reach 1.5 times the length of time required for graduation, they will be dropped from the program. If a student fails any course a second time, he/she will be dropped from the program. A failed course will be rescheduled for the earliest possible module at the discretion of the Director of Education. Students will be charged to retake the course.

Additional Resources and Points of Contact

Students requiring additional administrative support are encouraged to contact the Colleges Student Advocate, Mrs. Terri Gomez, at 210.233.1102 or via e-mail at tgomez@cbet.edu

For a complete list of administrative policies and regulations refer to the CBET Catalog at <https://cbet.edu/course-catalog>

NOTE: THE INSTRUCTOR RESERVES THE RIGHT TO MODIFY THIS SYLLABUS and COURSE OUTLINE